

In the Claims:

1. (currently amended): A process for supplementing pre-prepared audio media digital file content to be performed by a digital playback apparatus with supplemental digital program content constituting a supplemental media file, that comprises, preparing such supplemental digital program content in the form of executable code representing said supplemental media file ; and embedding the executable code representing said supplemental media file into the pre-prepared media audio file for execution by the playback apparatus supplementary to the playback of the pre-prepared media audio file content.
2. (currently amended) The process of claim 1 wherein the media audio file has not been pre-prepared to contain such executable code, and the code is seamlessly embedded in the media audio file as supplemental digital program sequences of executable code representing said supplemental media file.
3. (currently amended) The process of claim 2 wherein the media digital file program content ~~has been pre-prepared~~ is selected from the group consisting of audio, video, image, 3-D, database information and combinations.
4. (previously amended) The process of claim 3 wherein the sequences of executable code are prepared in a computer program format.
5. (original) The process of claim 4 wherein the sequences of executable code are prepared from the group consisting of computer-programmed Java class files, Macromedia Shockwave, Flash, binary executables, byte codes, Visual Basic and Java Script.
6. (original) The process of claim 4 wherein the program content of said sequences of executable code are selected as one or more of graphic, interactive, and e-commerce content.
7. (original) The process of claim 6 wherein said program content includes one or more of advertising, transactional advertising, interactive music videos, and e-commerce.

8. (original) The process of claim 3 wherein the media file has been pre-prepared to comprise audio program format and the embedded executable code is prepared to provide image supplementation.

9. (original) The process of claim 1 wherein the embedding in the media file is effected at predetermined time intervals.

10. (original) The process of claim 1 wherein the execution of the code is synchronized with the playback of the media files.

11. (previously amended) The process of claim 1 wherein said embedding of the executable code into the media file is effected seamlessly.

12. (original) The process of claim 11 wherein a checksum is used during the execution of the code at the playback, to verify that the embedded executable code has been extracted correctly.

13. (original) The process of claim 1 wherein the embedding is effected by steganographic techniques.

221 14. (currently amended) The process of claim 13 wherein the encoding of the executable code in the media audio file is effected by one of low-bit encoding and frequency-domain low-bit encoding.

15. (currently amended) The process of claim 13 wherein the embedding is effected at ~~substantially greater than 300~~ at the order of thousands of bits/second of executable code in the media audio file.

16. (currently amended) The process of claim 1 wherein the media file is an MPEG audio file containing an MP3 audio stream.

17. (original) The process of claim 16 wherein, in the encoding process, the executable code is unsynchronized from synchronization bytes of the audio stream and encapsulated in ID3v2 format before insertion at the beginning of the MP3 audio stream from the audio file.

Claim 18 (rewritten into independent form):

~~The process of claim 16 wherein, in the encoding process, executable code bits are inserted at the end of the audio file data in each audio frame to encode~~

ancillary data— A process for supplementing pre-prepared media digital audio file content to be performed by a digital playback apparatus with supplemental digital program content constituting a supplemental media file, that comprises, preparing such supplemental digital program content in the form of executable code representing said supplemental media file; and embedding the executable code representing said supplemental media file into the pre-prepared media audio file for execution by the playback apparatus supplementary to the playback of the pre-prepared media audio file content, wherein the media audio file is an MPEG audio file containing an MP3 audio stream, and wherein, in the encoding process, executable code bits are inserted at the end of the audio file data in each audio frame to encode ancillary data.

19. (original): The process of claim 18 wherein the MPEG audio file is recompressed to ensure room for executable code at the end of the frames.

20. (currently amended): A process for supplementing pre-prepared media digital audio file content to be performed by a digital playback apparatus with supplemental digital program content constituting a supplemental media file, that comprises, preparing such supplemental digital program content in the form of executable code representing said supplemental media file; and embedding the executable code representing said supplemental media file into the pre-prepared media audio file for execution by the playback apparatus supplementary to the playback of the pre-prepared media audio file content, wherein the media audio file is an MPEG audio file containing an MP3 audio stream, and ~~The process of claim 16~~ wherein the executable code is encoded in private data packets for the insertion and embedding of new private data packets into the existing MPEG file.

21. (previously amended): The process of claim 13 wherein the executable code is transformed into a bit stream and inserted and embedded at selected locations in the media audio file identified as locations of minor changes to the media audio file content.

22. (currently amended): The process of claim 1 wherein prior to the encoding embedding of the executable code into the media audio file, the media audio file is subjected to a digital watermarking process.

23. (currently amended): The process of claim 1 wherein the pre-prepared media audio file is an MP3 file and the executable code is seamlessly embedded therein and prepared to provide the supplemental program content selected from the group consisting of transactional advertising, games, polls, contests, interactive music, videos and e-commerce.

24. (currently amended): A system for flexibly adding supplemental digital program content representing a supplemental media file to the playback of a pre-prepared media audio digital file by digital playback apparatus, comprising, means for modifying the pre-prepared audio media file to embed sequences of executable code therein representing such supplemental program content media file; means provided in the digital playback apparatus for decoding the embedded code representing said supplemental media file during playback of the modified media audio file at the digital playback apparatus; and, in addition to means for playing back the pre-prepared a content of the media file, means provided at the digital playback apparatus responsive to the decoding for also presenting thereat the supplemental program content embedded media file.

25. (original): The system of claim 24 wherein the executable code sequences are selected to contain one or more of graphic, interactive and e-commerce program content.

26. (original): The system of claim 25 wherein said program content includes one or more of advertising, games, polls, contests, interactive music, videos and e-commerce.

27. (currently amended): The system of claim 24 wherein the media audio file is an MPEG audio file containing an MP3 audio stream.

28. (original): The system of claim 27 wherein the modifying means comprises means for unsynchronizing the executable code from synchronization bytes of

said audio stream and encapsulating the code in ID3v2 format before insertion at the beginning of the MP3 audio stream from the audio file.

29. (Rewritten into independent form): A system for flexibly adding supplemental digital program content representing a supplemental media file to the playback of a pre-prepared media digital audio file by digital playback apparatus, comprising, means for modifying the pre-prepared media audio file to embed sequences of executable code therein representing such supplemental program content media file; means provided in the digital playback apparatus for decoding the embedded code representing said supplemental media file during playback of the modified media audio file at the digital playback apparatus; and , in addition to means for playing back the pre-prepared a content of the media audio file, means provided at the digital playback apparatus responsive to the decoding for also presenting thereat the supplemental program content embedded media file, wherein the media audio file is an MPEG audio file containing an MP3 audio stream, and wherein, in the encoding process, means is provided for inserting executable code bits at the end of the audio file data in each audio frame to encode ancillary data.

30. (original): The system of claim 29 wherein the MPEG audio file is recompressed to ensure room for executable code at the end of the frames.

31. (Rewritten into independent form): A system for flexibly adding supplemental digital program content representing a supplemental media file to the playback of a pre-prepared media digital audio file by digital playback apparatus, comprising, means for modifying the pre-prepared media audio file to embed sequences of executable code therein representing such supplemental program content media file; means provided in the digital playback apparatus for decoding the embedded code representing said supplemental media file during playback of the modified media audio file at the digital playback apparatus; and , in addition to means for playing back the pre-prepared a content of the media audio file, means provided at the digital playback apparatus

responsive to the decoding for also presenting thereat the supplemental program content embedded media file, wherein the media audio file is an MPEG audio file containing an MP3 audio stream, and wherein means is provided for encoding the executable code in private data packets for the insertion and embedding of new private data packets into the existing MPEG file.

32. (currently amended): The system of claim 24 wherein the modifying means comprises steganographic coding means and wherein means is provided for transforming the executable code into a bit stream and for inserting and embedding bits at selected locations in the media audio file, identified as locations of minor changes to the media audio file content.

33. (currently amended): The system of claim 24 wherein means is provided, operable prior to the encoding-embedding of the executable code into the media audio file, for subjecting the media file to a digital watermarking process.

34. (original): The system of claim 24 wherein the pre-prepared media audio file is an MP3 file and the executable code is seamlessly embedded therein and prepared to provide supplemental program content selected from the group consisting of transactional advertising, games, polls, contests, interactive music videos and e-commerce.

35. (currently amended): A method of conducting advertising and e-commerce business through an expanded use of audio digital media playing apparatus, that comprises, seamlessly embedding in digital entertainment media audio files pre-prepared for entertainment playback by said apparatus, executable code representing a supplementary digital advertising and e-commerce business solicitation program content media file; and modifying said apparatus to enable also decoding of said code by the apparatus so as to enable playback at said apparatus of said business solicitation program content media file as a supplement to the playback of the entertainment file thereby to provide business solicitation opportunities not previously provided at such apparatus.

36. (original): The method of claim 35 wherein the media file contains audio MPEG formats and said playback apparatus is adapted for playing MP3 data streams of such formats.

37. (currently amended) :A process for seamlessly embedding supplementary program content into digital media audio streams during execution of such streams by digital media audio content presenting systems, that comprises, providing supplementary digital program content in the form of executable code; embedding the executable code into the digital stream; decoding the encoded code during the presenting of the content of the stream by the system; and presenting the supplementary program content of the decoding in response to such decoding during the presenting of the audio stream content by the system.

38. (previously amended): The process of claim 37 wherein the embedding, decoding and presenting are effected by software control of a computer system; with the presenting effected as playing and/or viewing at a computer screen.

39. (currently amended) The process of claim 1 or claim 2 wherein said embedding is of at the order of least-thousands of bits per second of said supplemental digital program content data ~~at data in a media audio file encoded at a bit rate of the order of 100 kilobits rates from hundreds to thousands of~~ Kilobytes per second.

40. (currently amended): The process of claim 37 wherein said embedding is of at least the order of thousands of bits per second of said supplementary digital program content in a media audio file encoded at data rates of the order of a hundred kilobits ~~from hundreds to thousands of Kilobytes~~ per second.

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